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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/776,036	02/02/2001	Dennis J. Malfer	EP- 7503	8721

7590 07/23/2002
ETHYL CORPORATION
330 South Fourth Street
Richmond, VA 23219

EXAMINER

TOOMER, CEPHIA D

ART UNIT	PAPER NUMBER
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1714

DATE MAILED: 07/23/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/776,036

Applicant(s)

MALFER ET AL.

Examiner

Cephia D. Toomer

Art Unit

1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-65 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-65 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2,3. 6) ☐ Other:

DETAILED ACTION

Specification

1. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-11, 13, 17-33, 35, 39-55, 57-61 and 63-64 are rejected under 35 U.S.C. 102(b) as being anticipated by Malfer (US 5,697,988).

Malfer teaches a fuel composition for reducing engine deposits comprising a Mannich reaction product of a hydrocarbyl substituted phenol, an amine and an aldehyde in a ratio of 1.0:0.1-10:0.1-10, respectively; a polyoxyether and optionally a PAO wherein the composition comprises from about 50 to about 90 wt% of the Mannich product, from about 10 to about 50 wt% polyether and from about 0 to about 40 wt% PAO (see abstract). The Mannich product comprises a polyalkyl substituent, which is derived from an olefin, having a molecular weight of from about 600 to about 14, 000. Polyisobutene is such a substituent. The amine may be monoamine, such as dimethylamine and the aldehyde is formaldehyde (see col. 2, lines 40-55; col. 3, lines

Art Unit: 1714

16-36; col. 4, lines 5-11). The hydroxyaromatic substituent may be phenol or cresol (C_1 substituted phenol) (see col. 3, lines 52-57; col. 4, lines 57-67). The Mannich product is prepared at a temperature from room temperature to 95 C or higher (see col. 2, lines 63-67; col. 3, lines 1-5).

The polyoxyether is a compound prepared from alcohols (C_1 - C_{200}) and 1, 2-propylene oxide (see col. 5, lines 20-56). The composition may also contain a hydrocarbon solvent such as benzene or Aromatic 150 (see col. 7, lines 52-59). The Mannich reaction product is present in the composition in an amount of less than 3000 ppm, preferably from about 600-1200 ppm (see col. 8, lines 25-40).

Accordingly, Malfer teaching all the material limitations of the claims, anticipates the claims.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 34, 56 and 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Malfer (5,697,988).

cl. 12
Malfer has been discussed above. Malfer fails to teach that the secondary amine is dibutylamine. However, it would have been obvious to have used the compound in the Mannich reaction because Malfer teaches that the amine may be a monamine and exemplifies a homolog of dibutylamine. It is well settled that compounds that are

Art Unit: 1714

homologs are generally of sufficiently close structural similarity that there is a presumed expectation that such compounds possess similar properties.

6. Claims 14-16 and 36-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Malfer (US 5697,988) as applied to claims above, and further in view of Malfer (US 5,725,612).

Malfer '988 fails to teach that the polybutene has at least 20, 50 or 70% terminal olefinic double bonds as alkylvinylidene double bonds. However, Malfer '612 teaches this difference (see col. 3, lines 26-56).


It would have been obvious to one of ordinary skill in the art to have prepared the compound with a polybutene having the claimed alkylvinylidene double bonds because Malfer '612 teaches that compounds prepared with this type of polybutene are more reactive.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cephia D. Toomer whose telephone number is 703-308-2509. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 703-306-2777. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9310 for After Final communications.

Art Unit: 1714

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.


Cephia D. Toomer
Primary Examiner
Art Unit 1714

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July 15, 2002